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Incidental papillary thyroid carcinoma in thyroglossal duct cyst case report

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ABSTRACT

INTRODUCTION: The thyroglossal cyst is found in 7% of the population and the incidental papillary thyroid carcinoma in thyroglossal cyst is a rare entity with an incidence 1 to 2%. The clinical presentation is indistinguishable from a benign lesion and the histopathological postoperative study defines the diagnosis. Papillary carcinomas have favorable prognosis and cervical or distant metastases are rare. There is now a consensus on the indication of total thyroidectomy, radioablation with iodine and/or suppressive therapy with levothyroxine after being removed surgically [1–3] (Patrucco et al., 2015; Gupta et al., 2014; Choi et al., 2013).
CASE REPORT: 46-year-old female patient with an asymptomatic midline neck mass consistent with a thyroglossal cyst. That was excised by Sistrunk's procedure and an intraoperative biopsy that reports papillary carcinoma infiltrating the capsule. It was decide to complete the total thyroidectomy without complications, evolution is consistent and graduated euphonious and no evidence of hypoparathyroidism.
DISCUSSION: Management dilemmas regarding the roles for total thyroidectomy are reviewed in the context of relevant evidence based literature.
CONCLUSION: The initial evaluation of carcinoma of thyroglossal duct cyst includes careful examination, ultrasound and biopsy fine needle aspiration. Sistrunk's procedure is adequate treatment for thyroglossal cyst but find another diagnosis as papillary thyroid carcinoma makes us continue with a total thyroidectomy after discuss the case with experts [4,5] (Tharmabala and Kanthan, 2013; Miranda-Aguirre et al., 2008).

1. Introduction

The thyroid gland develops from an endodermal invagination of the midline between the third and fourth week embryo. This epithelial invagination descends from the blind hole in the base of the tongue across the midline to the front face of the first tracheal rings. It obliterates tract epithelial approximately between the eighth and tenth week. The flaw in the obliteration of this canal produces persistent thyroglossal and the presence of thyroglossal duct cysts. The persistence of the thyroglossal today is estimated at 7% [1,2].

Uchermann described the first cases in 1911 by Brantano and in 1915. Now there have been about 250 cases. Most cases are papillary stock, approximately 85% of cases, and described in greater incidence between the fourth and fifth decade of life [3].

The thyroglossal duct cyst presents thyroid follicles and squamous epithelium. The appearance of a carcinoma in the thyroglossal duct cyst is rare, less than 1%. Most cases are papillary carcinoma (80%) [4].

2. Case presentation

Female patient 46 years old, a native and resident of Saltillo, Coahuila, walks in the emergency room. She begins her disease 3 months ago with increasing volume level anterior cervical hyoid; It is amounting cystic lesion with tongue protrusion and swallowing evidence. There was no history of dysphagia, dysphonia or hoarseness. There was no history suggestive of hypo or hyperthyroidism. The patient gave no history of radiation exposure. There was no other significant or past medical history or relevant

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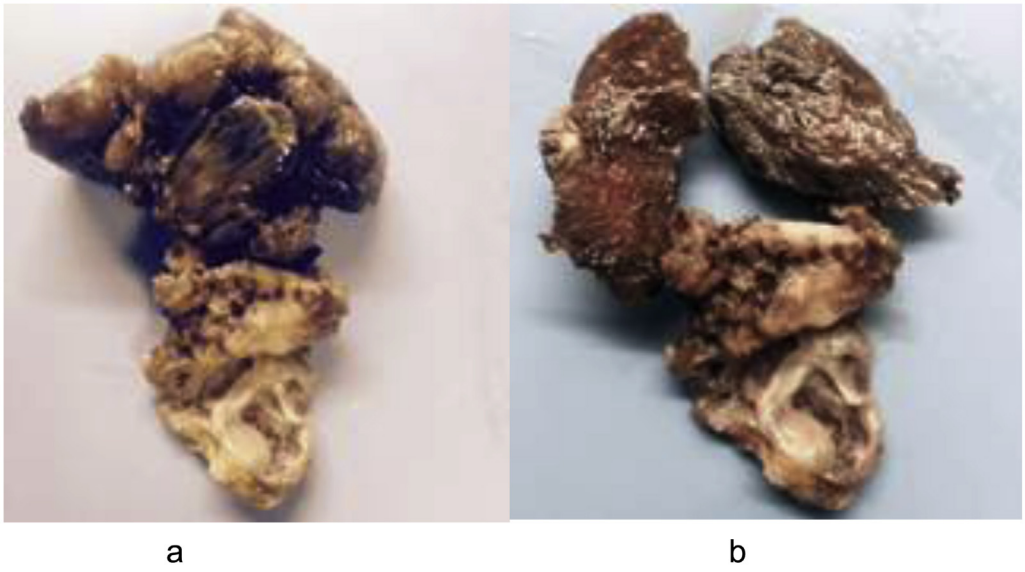

Fig. 1. a–b (Complete specimen was sent for histopathological examination).

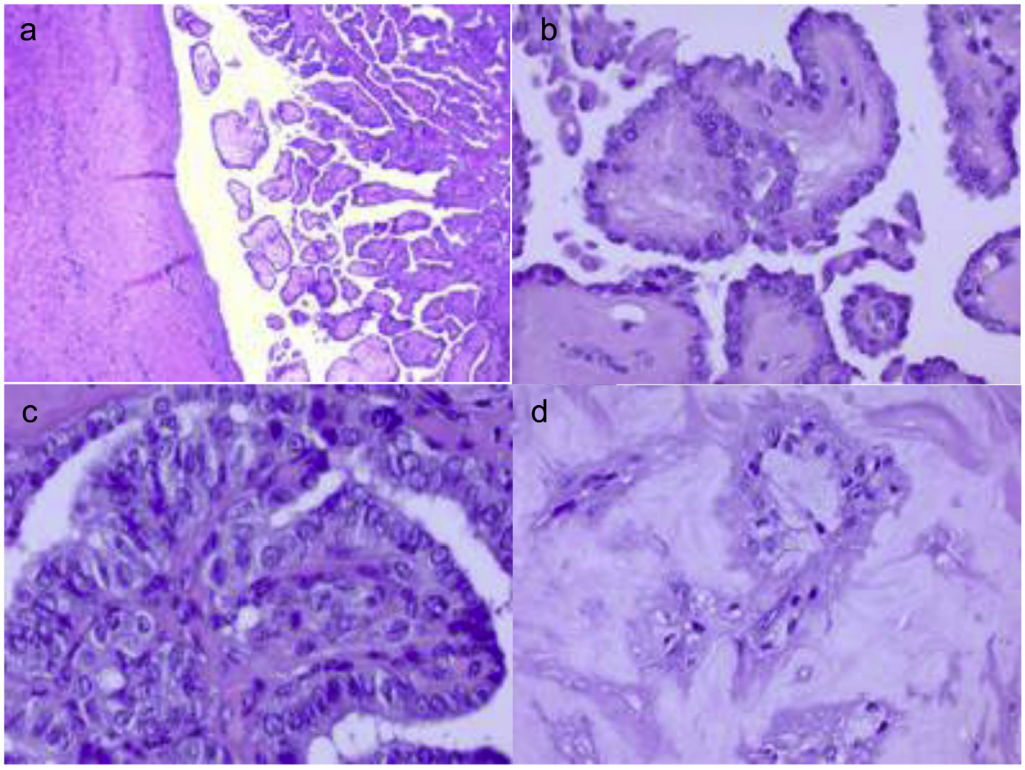

Fig. 2. a–d (Biopsy report revealed fibrocollagenic wall like tissue along with skeletal muscle bundles showing areas of fibrosis and many foci of papillary tumor lined with cuboidal epithelial cells with numerous Psammoma bodies. Papillary carcinoma infiltrates the thyroid capsule).

outcomes. No Drug history, no family history including any relevant genetic information, and no psychosocial history including smoking status and where relevant accommodation type. On examination, there was a single swelling in the region hyoid bone in the midline, approximately 5 × 4 cm in size, oval shape, well defined, and soft in consistency, overlying skin was ordinary in appearance and Could be pinched easily. It moved with deglutition and protrusion of the tongue. On palpation the swelling was soft in consistency. Normal overlying skin. There was no palpable lymphadenopathy. The thyroid gland was clinically regular in shape and size. Rest of the systemic examination was average. A provisional diagnosis of thyroglossal cyst was made. Routine thyroid function blood tests and investigations thyroid profile were normal. USG neck revealed 4.8 × 3.2 cm cystic swelling in the supra hyoid region. Both lobes of the thyroid gland were normal. There was no Pre-intervention consideration. On march 30th of 2016 under

General anesthesia, by an expert oncology surgeon, the patient underwent Sistrunk's operation with complete removal of the thyroglossal tract and part of the hyoid bone between the lesser cornu along the tract. A horizontal incision was made over the skin to deep fascia and deepened. There was a sac of just 4 × 3 cm above the hyoid. The tract was extending superiorly up to the basis of the tongue. The cyst Along With the tract and part of the hyoid bone was removed between greater cornu was removed. Intraoperative biopsy reported as papillary carcinoma that infiltrates the capsule. It was decided to complete total thyroidectomy without complications. Complete specimen was sent for histopathological examination. (Fig. 1a, b) Negative suction drain was kept which was removed after 94 h. The postoperative period was uneventful. Biopsy report revealed fibrocollagenic wall like tissue along with skeletal muscle bundles showing areas of fibrosis and many foci of papillary tumor lined with cuboidal epithelial cells with numerous Psammoma bodies. Papillary carcinoma infiltrates the thyroid capsule. (Fig. 2a–d) Evolution is consistent and graduated euphonious and no evidence of hypoparathyroidism. The patient should receive I 131 and is referred to nuclear medicine and endocrinology. No post operatory complications and she had a good evolution.

3. Discussion

The initial evaluation of a thyroglossal duct cyst should include invariably a complete physical examination of head and neck, with emphasis on the assessment of the thyroid and finding lymph nodes and thyroid function tests and further studies to confirm the diagnosis, especially those related to the assessment of functional thyroid tissue and its location, given the possibility of finding ectopic thyroid tissue adjacent to the cyst as a single functional gland.

The appearance of a carcinoma in thyroglossal duct cyst is rare and most reported incidence reaches 2.5%. It affects women and men in a ratio of 2:1 and 55% of cases occur in children under 40 years. The thyroglossal duct cyst are more common in children, carcinoma in thyroglossal duct cyst occur mainly in adults [4,5].

Etiopathogenic theories initially pointed to carcinoma in duct cyst thyroglossal was only the metastasis of a primary carcinoma of the thyroids, however, currently it is postulated that although some cases may be metastatic, other carcinomas would be a de novo lesion in the thyroglossal duct cyst, it emerged from ectopic thyroid tissue was present, which can be found in more than half of the thyroglossal duct cyst. This theory is also supported in the fact that it has never published a case of medullary carcinoma of thyroglossal duct cyst. This variety of carcinoma arises from para follicular cells, derived from the last gill body and not the thyroid primordial, which are absent in ectopic thyroid tissue [6].

However, the safest track is completing treatment with thyroidectomy and radioiodine eventually. When the diagnosis of carcinoma in thyroglossal cyst is carried out you should conduct a thorough review of the thyroid gland and lymph nodes, either during surgery or after this, clinically and radiological. It should be noted that the evolution of the carcinoma and its possible consequences is prolonged, so that the control and monitoring of patients is essential in maintaining the good prognosis of pathology. The prognosis of carcinoma of thyroglossal duct cyst is similar or better than the carcinoma of the thyroid gland, with figures higher cure to 95% [1,7].

Surgical thyroidectomy associated resolution should be considered when the disease is not greater than the theoretical benefit. For this it must be studied case by case by a multidisciplinary team with extensive experience in managing thyroids cancer. In our case we study the case with an Oncology Surgeon, a Pathologist and an Oncology. We told the family the options and they agree to do the thyroidectomy [7].

4. Conclusions

Carcinoma of thyroglossal is a low incidence and tumor diagnosed usually after surgery. Papillary is the most common variant. The prognosis is good with a long survival.

The first therapeutic step is Sistrunk procedure that controls associated with cancer is established as a therapeutic alternative for patients with no risk factors for thyroid carcinoma.

The application of agreed criteria facilitates diagnostic and therapeutic decision making as risk factors.

Sistrunk operation conducted in conjunction with a total thyroidectomy in experienced hands provides security in cancer control and allows appropriate monitoring markers such as thyroglobulin or radioiodine scans for possible recurrence or subsequent metastasis.

Conflict of interest

There is no conflict of interest to be declared.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

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Ethical approval

We have approval of the head of Department of Surgery from the Hospital Universitario de Saltillo and his ethical Committee.

Author contribution

Medina-Lira Ana Karen study concept or design, data collection, data analysis or interpretation.

Berdeal Fernández E. Surgeon performed the operation and follow up.

Cisneros Bernal E. Pathologist performed the view of surgical piece and follow up.

Betancourt-Galindo, R. Data collection.

Frigerio Pamela study concept or design, data collection, data analysis or interpretation, writing the paper.

Guarantor

Pamela Frigerio have full responsibility for the work.

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